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GENERAL PERMIT FOR STORM WATER DISCHARGES FROM SMALL MUNICIPAL
SEPARATE STORM SEWER SYSTEMS IN THE STATE OF DELAWARE

PHASE II MS4 TIER II GENERAL PERMIT FACT SHEET

NPDES Permit Number: DE 0051217

State Permit Number: WPCC 3033/17

Executive Summary

The State of Delaware Department of Natural Resources & Environmental Control ("the Department" or "DNREC") has developed a National Pollutant Discharge Elimination System (NPDES) General Permit for storm water discharges from Small Municipal Separate Storm Sewer Systems (MS4s). This permit addresses the federal requirements under the Clean Water Act (CWA) to reduce polluted storm water runoff that is contributed by the MS4 and which ultimately discharges to local rivers and streams without treatment.

A small MS4 is a separate storm sewer that is (i) owned or operated by the United States, a State, city, town, borough, county, among other public entities, having jurisdiction over disposal of storm water; (ii) Not defined as a "large" or "medium" MS4. A small MS4 is "regulated" if it is: (1) located in an "urbanized area" as determined by the latest Decennial Census by the U.S. Bureau of the Census; or (2) outside of an urbanized area but designated as a regulated small MS4 by the NPDES permitting authority 40 C.F.R. § 122.32(a). A regulated small MS4 includes storm drain conveyance systems owned or operated by a federal, state or city entity, a town, or other public entity where storm water discharges into the waters of the United States.

Background Information

Section 402 of the Federal CWA, 33 U.S.C. § 1342, prohibits the discharge of any pollutant to waters of the United States from a point source, unless that discharge is authorized by a NPDES permit. Similarly, 7 Del. C., Chapter 60, § 6003(a)(2), prohibits the undertaking of any activity "in a way which may cause or contribute to the discharge of a pollutant into any surface or ground water" without first having obtained a permit from the Secretary of DNREC.

Efforts to improve water quality under the NPDES program have traditionally focused on reducing pollutants in discharges of industrial process wastewater and municipal sewage. As pollution control measures have been implemented for these discharges, it has become evident that diffuse sources of water pollution are also major contributors to water quality degradation. Past studies, including the Nationwide Urban Runoff Program (NURP) study (EPA 1983), have shown that storm water runoff from urban and industrial areas typically contain the same general types of pollutants that are often found in industrial wastewater discharges, with similar impacts on surface water quality. Pollutants commonly found in storm water runoff include heavy metals, pesticides, nutrients and synthetic organic compounds such as fuels, waste oils, solvents, lubricants and grease. These substances can have damaging effects on both human health and aquatic ecosystems. In addition, the high volumes of storm water discharged from municipal separate storm sewer systems in areas of rapid urbanization have had significant impacts on aquatic ecosystems due to physical modifications such as bank erosion and widening of channels.

With the growing concern and realization that storm water runoff, including both urban storm water and runoff from industrial sites, greatly contributes to surface water quality impairment, Congress added specific provisions to the CWA in 1987 (the Water Quality Act of 1987) to address storm water. To view these provisions, see section 402(p) of the CWA, 33 U.S.C. § 1342(p). Congress directed the EPA to develop regulations and require NPDES permits for discharges of storm water from sites of industrial activities and from large and medium sized urbanized areas.

In 1990, EPA published its municipal storm water regulations for medium and large cities or certain counties with populations of 100,000 or more. 55 Fed. Reg. 47990 (Nov. 16, 1990). The Phase II MS4 program, issued in 1999, requires the small MS4s in urbanized areas, as well as small MS4s outside the urbanized areas that are designated by the permitting authority, to obtain NPDES permit coverage for their storm water discharges. 64 Fed. Reg. 68722 (Dec. 8, 1999). The Delaware DNREC was designated in 1992 as the NPDES permitting authority in Delaware under a Memorandum of Agreement between EPA Region III and DNREC.

Activity Description

A “municipal separate storm sewer system” is defined by the US EPA as “...a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains): (i) owned or operated by a State, city, town, borough, county, parish, district, association, or other public body...having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes...; (ii) Designed or used for collecting or conveying storm water;” [40 C.F.R. § 122.26(b)(8)].

Statutory and Regulatory Basis

The Department proposes to issue this General Permit to those designated entities subject to the discharge limitations, terms and conditions outlined in the permit. Section 402 of the Federal CWA of 1977, as amended by the Water Quality Act of 1987 and as subsequently modified, and the implementing regulations at 40 CFR 122, as well as the state statute, 7 Del. C., Chapter 60.

Permit History

DNREC released a pre-notice draft Phase II General Permit in 2015 and received public comments until January 31, 2016. Many commenters noted problems with resource limitations, misunderstandings about regulatory requirements and proposed timelines. In general, the regulated community expressed serious concerns with the ability to meet substantive and administrative aspects of the proposed General Permit. DNREC reviewed the public comments and has responded with a new proposal that has been revised substantially. The Phase II MS4 Tier II General Permit is designed for those MS4s that do not currently hold a NPDES MS4 permit issued by the Department.

Receiving Waters and Stream Classification

The State of Delaware is composed of four major drainage basins: the Piedmont, the Delaware Estuary, the Chesapeake Bay and the Inland Bays/Atlantic Ocean. These are further divided into forty-five sub-watersheds and assigned Hydrologic Unit Codes by the US Geological Survey. Under Section 303(d) of the Clean Water Act, DNREC is required to identify streams that do not meet water quality standards and to develop pollutant limits for these streams, called Total Maximum Daily Loads (TMDLs). The State's 2509 miles of streams and 2954 acres of lakes, reservoirs and ponds are designated by DNREC for public or industrial water supply, primary or secondary contact recreation, fish, aquatic life and wildlife, cold water fish, agricultural water supply, harvestable waters or Exceptional Recreational and Ecological Significance uses. According to the 2012 305(b) report submitted to EPA, DNREC has determined that 85% of Delaware's rivers and streams do not fully support the swimming use and 94% do not fully support the fish and wildlife use. Most of these waters do not meet the standards because of the contribution of pollutants from diffuse sources, such as those carried by storm water to the MS4.

Proposed Permit Term and Conditions

The Department proposes to issue this NPDES permit to small new MS4 entities for a period not to exceed five (5) years. Goals, limitations, monitoring requirements and other terms and conditions are described in the draft permit.

Conditions of this permit require the covered entities to possess the legal authority to: (1) control non-point source pollutants that enter the storm sewer systems, and (2) develop and implement management programs to minimize the pollutant contribution to and from the MS4.

Basis for Proposed Discharge Limitations and Other Permit Conditions

Storm water runoff picks up pollutants as it runs over the land surface. The quality of the storm water discharged to and from a MS4 depends upon the sources of pollutants. Minimizing such pollutant sources and the potential for exposure to them reduces the pollutant impact of storm water discharges. With this in mind, DNREC promotes a source reduction/pollution prevention approach for managing storm water runoff. Examples are sedimentation and erosion control programs for construction and land disturbing activities; land use planning and ordinances in those areas subject to new development or redevelopment; public education and training

programs; spill response and cleanup programs; and programs to detect and eliminate, unauthorized non-storm water discharges to the MS4.

DNREC developed the discharge goals, limitations, terms and conditions outlined in the draft permit to further the policy and purposes of Title 7, Del. C., Chapter 60 and to achieve the water quality protection goals of the Federal CWA and its implementing regulations.

The statutory provisions governing discharges from MS4s are contained in Section 402(p)(3)(B) of the CWA, 33 U.S.C. § 1342(p)(3)(B), as amended. In general, Congress provided that permits for discharges from MS4s:

- may be issued on either a system-wide or jurisdiction-wide basis;
- shall prohibit any non-storm water discharges into the MS4s; and
- shall require controls to reduce the discharge of pollutants from MS4s to the maximum extent practicable.

This general permit follows the Phase II regulations of 40 C.F.R. 122.34, including specific “minimum control measures” – public education, public involvement, illicit discharge detection and elimination, construction and post-construction controls, and pollution prevention/good housekeeping for municipal operations. The regulations at 40 CFR 122.34 state that the use of BMPs in the implementation of the minimum control measures (MCMs) constitutes compliance with the narrative water quality criteria that apply to small new MS4s. The written plan to institute these MCMs is the required Storm Water Pollution Prevention and Management Plan (SWPP&MP). The BMPs require the MS4 to consider water quality in the development of the stormwater plan, so the permittee is expected to select and implement BMPs that address water quality concerns. There is no regulatory requirement to perform wet weather sampling, and the permittees are not required by the terms of this permit to collect or analyze stormwater samples.

In Delaware, the State has published reports on water quality impairments on its CWA Section 303(d) list, and has developed Total Maximum Daily Loads (TMDLs) pursuant to 40 CFR 130.7. Also, the State, in conjunction with watershed groups and other interested parties has developed Watershed Management/Implementation Plans and Pollution Control Strategies for implementing TMDLs, and has published these plans at <http://www.dnrec.delaware.gov/swc/wa/Pages/WatershedManagementPlans.aspx>. The permittee should review these plans for the watershed that receives discharges from their MS4, and must adapt their SWPP&MP to the relevant Watershed Management Plan.

All the small new MS4s subject to the Tier II General Permit are located in Kent or Sussex County, where the TMDL pollutants of concern are total nitrogen, total phosphorus, dissolved oxygen and bacteria. The TMDLs state that the sources of these pollutants include agriculture, human waste, animal waste and sediment. MS4s do not have legal authority directly address agricultural sources of TMDL pollutants, but their efforts can be directed toward managing human waste, pet waste and sediment originating from within their municipal boundaries.

Examples of actions to reduce the discharge of pollutants prescribed for towns in the Watershed Plans include removing individual onsite wastewater systems, using low impact development

techniques to reduce runoff from construction sites and educating the public about water quality and urban sources of nutrients.

In order to comply with the requirements of the general permit, the permittee must identify the waters that receive discharge from their MS4, review the relevant Watershed Management Plan, review the EPA BMPs for each Minimum Control Measure, select appropriate BMPs to control the relevant pollutants, and describe the BMPs, including measuring techniques the permittee will use to determine whether the BMP was effective, in the SWPP&MP. The SWPP&MP is then submitted to DNREC and is subjected to notice and comment publication as “Option 2, Procedural Approach” in accordance with EPA’s National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System General Permit Remand” Rule.

Storm Water Pollution Prevention and Management Program

Under the draft General Permit, the permittee must develop and implement a Storm Water Pollution Prevention and Management Program (SWPP&MP) designed to control the quality of the storm water discharged from its MS4. The SWPP&MP must also outline measures that will reduce the discharge of pollutants from the MS4 and include a schedule for implementation.

The SWPP&MP focuses on the minimum control measures required by 40 C.F.R. § 122.34.

Public Education/Public Involvement

The permit requires the permittees to develop and implement a public education strategy and to conduct a public education survey. EPA has supplied resources and examples to assist the permittees in implementing a public education strategy. For example, see EPA’s “Getting in Step” guides and the EPA Nonpoint Source Outreach Toolbox (<http://cfpub.epa.gov/npstbx/index.html>). In addition, the Delaware Nursery and Landscape Association (DNLA) administers’ a “Livable Lawns” program. Permittees may satisfy the public education portion of the general permit by ensuring that the Livable Lawns literature is distributed within its jurisdiction and being prepared to answer or refer to the right contact within any questions from the public about the program.

Similarly, municipalities may coordinate with DNLA to provide public participation in its programs within the municipality’s jurisdiction. Any MS4 that seeks to comply with the general permit by coordinating with DLNA should be prepared to provide evidence of this coordination and the activities within the jurisdiction through returned surveys with addresses from the jurisdiction, memorandum of understanding with DLNA or other tangible evidence in the event of a DNREC or EPA inspection.

Illicit Discharge Detection and Elimination

The permittees are required to implement an illicit discharge detection and elimination (IDDE) program, and must maintain and enforce an ordinance that prohibits the discharge or disposal of used motor vehicle fluids, household hazardous wastes, grass clipping, leaf litter, domestic

animal wastes, sanitary sewer overflows (SSOs), and any other non-stormwater discharge to the system.

Industrial Storm Water

The permit requires the Phase II MS4 permittees to notify the Department in adding to the inventory of those industrial facilities if they become aware of new facilities in their jurisdiction that are subject to the State of Delaware's *Regulations Governing the Control of Water Pollution* (Section 9.1 Industrial Storm Water Program).

Mapping Requirement

The permit requires the permittees to develop, if not already completed, a storm sewer system map, showing the location of all outfalls and the names and locations of all waters of the United States that receive discharge from those outfalls. The permittees must annually revisit and update, as necessary, storm sewer and BMP mapping information.

Construction and Post-Construction Storm Water Management

The permittees are required to have a program to manage construction and post-construction storm water runoff. The Department has promulgated Sediment and Stormwater Regulations to control runoff from construction and post construction activities. The county conservation district of each county has been delegated authority to enforce these regulations. If the county conservation district reviews and enforces the state regulations within the boundaries of the MS4, the permittee must state this in the SWPP&MP. Since the state regulations are intended to control the discharge of stormwater from construction and post construction sites, the Department views this program as compliance with the MEP standard.

Good Housekeeping

The permittee is required to develop and implement a good housekeeping program that is designed to prevent and/or minimize discharges of pollutants associated with the permittee's operations. The good housekeeping program must include: an employee training program; an inventory of all facilities owned or operated by any of the permittees located in the MS4 area, a street sweeping program, a program to reduce the contribution of pollutants associated with the application, storage and disposal of pesticides, herbicides, and fertilizers from permittees' areas and activities; a program to manage pollutants associated with snow and ice management, including salt storage and alternate deicing practices, and a program to control litter on streets and highways, including the proper disposal of collected materials.

Waiver

Under the Clean Water Act, municipal separate storm sewer systems (MS4s) are required to obtain a discharge permit unless they are granted a waiver by the NPDES permitting authority (DNREC) under 40 CFR § 123.32 (c), (d) or (e). Under the Stormwater Phase II Final Rule, DNREC may waive permit coverage of a MS4 if it serves a population below a certain number,

the MS4 is not contributing substantially to the pollutant loadings and stormwater controls are not needed based on waste load allocations that are part of a TMDL. The inclusion of town population as a criterion demonstrates EPA's recognition that the burden of maintaining a full stormwater program on small jurisdictions is potentially disproportionate to the water quality benefits.

The vast majority of watersheds in Delaware are impaired by nutrients, measured as total nitrogen (N) and total phosphorous (P), dissolved oxygen (DO) and bacteria (B).

DNREC has designated several streams as exceptional recreational or ecological significance (ERES), which are important, unique, or sensitive. According to State policy, 5.6.1 in the State of Delaware Water Quality Standards (as amended, October 1, 2014), ERES waters shall be accorded a level of protection and monitoring in excess of that provided most other waters of the State. ERES waters shall be restored, to the maximum extent practicable, to their natural condition.

The watersheds with ERES designations are:

Brandywine Creek (portions)	Gravelly Branch
Red Clay Creek (portions)	Deep Creek
White Clay Creek (portions)	Broad Creek
Cedar Creek (portions)	Wicomico
Marshyhope Creek	Rehoboth Bay
Nanticoke River	Indian River
Gum Branch	Assawoman Bay
Iron Branch	Delaware Bay (not including tributaries)
Indian River Bay	Atlantic Ocean (not including tributaries)
Little Assawoman Bay	

According to the Pollution Control Strategies (PCSs) for the State's TMDLs, the inputs of NPDO&B are dominated by agricultural sources (See DNREC TMDL Analysis documents for the St. Jones, Murderkill and Leipsic River watersheds (<http://www.dnrec.delaware.gov/swc/wa/Pages/WatershedAssessmentTMDLs.aspx>)). Dissolved oxygen becomes depleted when excessive algal growth, which in turn results from excess nitrogen and phosphorous. Efforts to correct DO problems are the same as they are to curtail phosphorous loading. Similarly, bacteria are contributed by the same sources from an MS4 as

nutrients, and efforts to control the discharge of bacteria are the same as for nutrients.

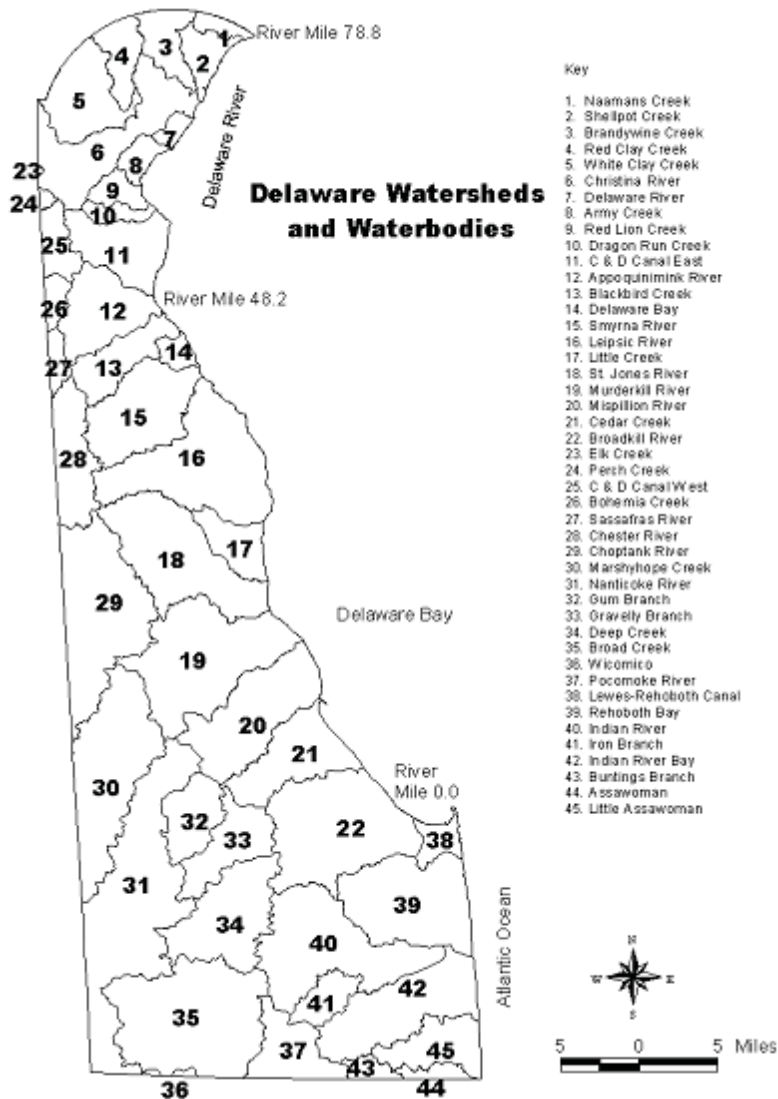


Figure 1. Delaware Watersheds and Waterbodies.

Table 1.

<u>MS4</u>	<u>Population*</u>	<u>Watershed</u>	<u>Pollutants Causing Impairment</u>
Blades	1241	Nanticoke	TN, TP, DO, Bacteria
Camden	3464	St. Jones	TN, TP, DO, Bacteria
Cheswold	1380	Leipsic	TN, TP, DO, Bacteria
Clayton	3037	Smyrna	TN, TP, DO, Bacteria
Delmar	1597	Broad Cr/Pocomoke	TN, TP, DO, Bacteria
Felton	1298	Murderkill	TN, TP, DO, Bacteria
Frederica	774	Murderkill	TP, TN, DO, Bacteria
Laurel	3708	Broad Creek	TP, TN, DO, Bacteria
Magnolia	225	St. Jones	TP, TN, DO, Bacteria
Seaford	6928	Nanticoke	TN, TP, DO, Bacteria
Smyrna	11147	Smyrna	TP, TN, DO, Bacteria
Viola	157	Murderkill	TP, TN, DO, Bacteria
Woodside	181	Murderkill	TP, TN, DO, Bacteria
Wyoming	1313	St. Jones	TP, TN, DO, Bacteria

*Populations were taken from Delaware League of Local Governments website, 5/3/17.

In Delaware's TMDLs, DNREC discusses the sources of nutrient and bacteria pollutants. In the case of urban land uses, those sources consist primarily of sedimentation and erosion from construction, septic systems, pet waste and lawn fertilizers. Structural and nonstructural best management practices (BMPs) can intercept the pollutants and prevent them from washing into surface water. Structural BMPs for nutrients and bacteria include things like vegetated stream buffers, infiltration trenches and grassed swales. Nonstructural BMPs include actions like pumping septic systems, educating the public to avoid over fertilizing their lawns and properly managing pet waste.

In Delaware, DNREC has established statewide sedimentation and erosion regulations for land disturbance on an area equal to or greater than one acre, and has delegated authority for reviewing construction plans and enforcing the regulations to the county conservation districts. As the permitting authority, DNREC believes that state sediment and stormwater control program meets the construction and post construction stormwater runoff control requirements of §122.34 (b)(4) and (5). Establishment by a MS4 permittee of a construction and post construction runoff control program would be duplicative of the state/conservation district regulation, therefore, permittees must acknowledge the program in their SWPP&MP and perform any coordination with the county conservation district necessary to maintain records and reports. DNREC calculated estimated load allocations for the remaining sources of NPDO&B that cause impairment by small new MS4s with a population under 1000 residents and determined that the contributions are all less than 1% of the allocation for the watershed in each

case. The permitting authority has concluded that these discharges are not substantial and storm water controls are not needed based on waste load allocations in the States TMDLs. These small new MS4s are therefore waived under the 2017 Tier II General Permit, and include:

- Frederica
- Magnolia
- Viola
- Woodside

In order to qualify for a waiver, small new MS4s with a population between 1000 and 10,000 residents must pass threshold criteria of controlling NPDO&B through construction/post construction sediment and stormwater program and the replacement of onsite septic systems with centralized wastewater treatment. DNREC has determined that under the following circumstances, a MS4 municipality may be waived from the MS4 General Permit:

Phase II MS4 communities with between 1000 and 10,000 residents, where:

- 1) new construction and post construction stormwater standards are ensured through the application of the statewide Sediment and Stormwater Regulations by the county conservation district, and
- 2) the MS4 is served by a centralized wastewater treatment system that has its own National Pollutant Discharge Elimination System (NPDES) permit or Delaware spray irrigation and biosolids permits, and
- 3) the MS4 contributes less than 5% of the total load of nutrients and bacteria to the watershed, and
- 4) The MS4 does not drain to a waterbody that is classified as ERES.

DNREC has calculated the estimated contributions of the small new MS4s and found that the following communities discharge less than 5% of the waste load allocation and finds that they qualify for a waiver because storm water controls are not needed and future discharges do not have the potential to result in exceedances of water quality standards:

- Cheswold
- Clayton
- Felton
- Frederica
- Wyoming

For small new MS4s with populations below 10,000 residents, which discharge to an ERES waterbody, the permitting authority waives MS4s where:

- 1) new construction and post construction stormwater standards are ensured through the application of the statewide Sediment and Stormwater Regulations by the county conservation district, and

- 2) the MS4 municipality is served by a centralized wastewater treatment system that has its own National Pollutant Discharge Elimination System (NPDES) permit or Delaware spray irrigation and biosolids permits, and
- 3) the MS4 community contributes less than 1% of the load of nutrients and bacteria to the watershed.

DNREC has calculated an estimate of the contributions of small new MS4s with outfalls in ERES waters and is waiving:

- Blades

The final category of waivers involves communities that straddle the state border. One such community is classified as a small, newly regulated MS4: **Delmar**. In the process of evaluating the impacts of small new MS4s to receiving waters, the Department considered not only stream classifications but also watersheds and downstream impacts. In the case of Delmar, a greater portion of the receiving Broad Creek/Pocomoke watershed lies within the State of Maryland than in Delaware and the Maryland Department of the Environment has waived Delmar, Maryland from the MS4 General Permit. The Department, in considering the MS4 permit determination of the downstream state, has concluded that Delmar, Delaware is waived on the basis that water quality controls are not needed based on wasteload allocations and future discharges do not have the potential to result in water quality exceedances.

Under Delaware's MS4 Permitting Program, each of these waived MS4s would be required to submit a Notice of Intent to accept a waiver from the GP to comply with the general permit. While the Department has made a determination regarding waiver eligibility as stated in this Fact Sheet, the Department reserves the right to retract a waiver if we become aware of information that counters our conclusion regarding water quality impacts of the communities granted a waiver in this document. This waiver policy applies to the general permits issued in 2017 and may be revised in the next permit cycle. Those communities that have been waived during this cycle may not be eligible in the next permitting cycle.

Public Notice and Process for Reaching a Final Decision

The public notice of the Department's issuance of the General Permit outlined herein will be published in the Wilmington News Journal and the Delaware State News on **XXXX #, 2017**. Interested persons are invited to submit their written views on the draft permit and the tentative determinations made with respect to this NPDES draft permit. The Department will not hold a public hearing on this application unless the Department receives a meritorious request to do so or unless the notice of this proposal generates substantial public interest. A public hearing request shall be deemed meritorious if it exhibits a familiarity with the application and a reasoned statement of the permit's probable impact. The request for a public hearing shall be in writing and shall state the nature of the issues to be raised at the hearing. All comments received by the close of

business at 4:30 pm on XXXX #, 2017, will be considered by the Department in preparing the final permit.

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